Educational Goals and Objectives for Pathology

Location: Lemuel Shattuck Hospital / Tufts-New England Medical Center

Type of Rotation: Elective
Length of Rotation: 2-4 weeks
Contact: Stephen Naber, M.D.

1. OVERVIEW

The Transitional Year Resident receives knowledge and experience through a structured rotation that includes: 1) a hands-on approach to laboratory medicine and anatomic pathology, 2) direct teaching by pathologists and clinical laboratory scientists, and 3) self study of references selected to enhance the practical learning experience.

2. GOALS

To provide Transitional Year Residents with practical knowledge and experience in pathology and laboratory medicine.

3. OBJECTIVES

a. General Laboratory
   1) Understand basic safety regulations and procedures employed in the laboratory
   2) Understand specimen collection, labeling and handling protocols
   3) Observe phlebotomy rounds on patient floor (2 hours)
   4) Understand basic principles of the laboratory information system

b. Histology
   1) Observe routine tissue processing, embedding, sectioning, staining and final preparation (3 hours)
   2) Observe frozen section technique
   3) Observe special stain slides – Iron, PAS, Trichrome, Reticulin, Giemsa, Acid Fast, GMS and Immuno-Histochemical
   4) Observe cytologic processing, staining and final preparation

c. Surgical Pathology
   1) Observe gross examination of pathology specimens (5 hours)
   2) Observe intra-operative consultations a pathologist (8 specimens)
   3) Perform under direct supervision the gross examination and sampling of extremity and/or placenta (4 specimens)
   4) Perform under direct supervision the gross examination and submission small (POC and biopsy) tissue samples (10 cases)

5) Review teaching file reports of selected cases, then review slides with a pathologist (20 cases)
6) Observe surgical pathology signout with three different pathologists on at least 3 days a week (8 hours per week)
7) Understand quality assurance principles in pathology

d. Cytopathology
1) Observe FNA and marrow collection procedures (all available, at least 5)
2) Review teaching file reports and slides of selected non-gynecologic cytology cases with a pathologist (10 cases)
3) Review teaching file pap slides with a pathologist (15 cases)
4) Screen pap slides with pathologist (2 cases)
5) Observe cytology sign-out at least 2 days a week

e. Autopsy Pathology
1) Observe autopsy gross and microscopic procedures
2) Prepare clinical summary and CPC for autopsy report under the guidance of a pathologist
3) Know the five classes under manner of death
4) Know how to classify the cause of death and complete a death certificate
5) Know types of deaths that are reportable to the coroner's office

f. Blood Bank
1) Know the major components for transfusion, including shelf life
2) Know the indications for transfusion of blood components
3) Know the basic blood group & type frequencies
4) Observe and perform blood group and typing
5) Know the principles of irregular antibody workup
6) Review problematic irregular antibodies (D, C, c, E, e, Kell, Duffy, Kidd, S, s and cold)
7) Observe and perform a direct and indirect Coomb's test
8) Observe blood supply protocols, including crossmatching, results reporting and release of uncrossmatched blood (3 hours)
9) Review criteria for transfusion reaction
10) Review transfusion reaction workups with blood bank supervisor
11) Perform transfusion utilization review for PRBC, FFP and PLTS
12) Observe the transport and start of all STAT transfusion components delivered to the emergency department during standard hours and evaluate the appropriateness and effectiveness of the transfusion with the blood bank director
13) Observe the transport and start of transfusions for platelet therapy and PRBC (one case each)
14) Review nursing transfusion protocol, including the use of filters with blood bank supervisor

d. Hematology
1) Review specimen rejection criteria
2) Review test results reporting
3) Review the criteria for submission of a CBC result to a pathologist
4) Perform manual reticulocyte count
5) Perform sedimentation rate
6) Set up KleihauerBetke test
7) Review teaching file blood films and body fluids with pathologist

e. Coagulation
1) Observe coagulation test processing (2 hours)

2) Review specimen rejection criteria
3) Observe and perform bleeding time under supervision
4) Observe and perform manual platelet count
5) Perform mixing study

f. Urinalysis
   1) Observe urinalysis test processing (1 hour)
   2) Review atlas of urine sediment and examine urine sediment with hematology supervisor (10 specimens)

g. Serology
   1) Review list of in-house serologic tests and specimen requirements
   2) Observe serology test processing (1 hour)

h. Microbiology
   1) Review culture specimen requirements, including blood culture collection, with microbiology supervisor
   2) Observe and perform under guidance the collection of blood culture specimens (3 patients)
   3) Observe bacterial specimen plating, processing, evaluation and reporting methods (4 hours)
   4) Observe gram stain procedure
   5) Observe acid fast stain procedure
   6) Review teaching gram stain and acid fast slides with microbiology supervisor (10 cases)

i. Clinical Chemistry
   1) Review list of in-house tests, STAT tests, rejection criteria, panic values and turn around times
   2) Observe specimen processing and resulting for routine chemistry tests, stat testing, osmolality and blood gases (3 hours)
   3) Review POCT policies, techniques, regulation and monitors
   4) Observe specimen send-out procedure

4. CLINICAL EXPERIENCE

This is an educational experience in the pathology lab. There is no clinical patient interaction in this rotation.

5. SUPERVISION

One of the staff pathologists, will be assigned to resident.

6. METHODS OF IMPLEMENTATION OF GOALS AND OBJECTIVES

Observation and performances of selected technical skills.
Individual reading, as directed by department.
Individual discussions of topics with pathologists and laboratory technicians.